



Pennsylvania Association of Public Employee Retirement Systems

Protecting Public Employee Benefits / What Lies Beneath?

May 24, 2012

Yields vs. Returns | Assets vs. Liabilities

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Three basic goals:

- 1. Outperform the Market/IPS (Mutual Funds, S&P 500)**
- 2. Outperform Liabilities (Pensions, Insurance, ...)**
- 3. Outperform Risk Target (Endowments, Foundations)**



Client Objectives

State & Municipal

Operating Pensions
 OPEB Medical
 Lotteries
 Prepaid Tuition
 Defeasance Programs
 Worker's Compensation

Foundations & Endowments

Custom Distribution
 Custom Grant
 Gift Annuity

Corporation

Pensions
 Medical Liabilities
 Plan Terminations
 Funded Depreciation

Insurance

General Accounts
 Life
 Workers Compensation
 Property & Casualty
 Health Care

Taft-Hartley

Pensions
 Medical Liabilities
 Strike

Nuclear Decommissioning

Incurred Liabilities
 Construction

High Net Worth

Tuition
 Retirement
 Healthcare
 Estate

Hospitals

Endowment
 Pensions
 Medical Liabilities
 Construction Projects
 Defeasance Programs
 Self Insurance



United States Retirement Infrastructure: Defined Benefit (DB) Retirement Plans

Total Retirement Infrastructure is ~\$17.9 Trillion (ICI)

~ \$8.5 Trillion in Public & Private DB Assets (ICI)

~ \$426 billion in benefits paid to 19 million retirees in 2009 (NIRS)

Public Pension Plans

~ \$4.5 Trillion in Government Retirement plans (ICI)

~ \$1.1 Trillion in under funded pension plans (Barclays 2009)

~ 64% Funded (Barclays 2009)

Corporate ERISA pension funds (Milliman 100 pension plans)

~ \$1.2 Trillion in Assets | ~ \$368 billion shortfall

~ 78% Funded

~ \$26 billion shortfall at PBGC

Multi-Employer Taft Hartley Pension Funds

~ \$428 billion under funding (Credit Suisse 2012)

~ 46% funded



Concern:

Defined Contribution plans are less able than Defined Benefit Pension Plans to provide lifetime income to retirees

Defined Benefit Plans will be strengthened by increased transparency and updated modes and methods to contribution strategy, benefit management and asset allocation

DC advocates want to set aside smaller amounts that is less risky to the government employers



Investment Grade Sector Analysis (April 2012)

Yield and Total Returns									
Ryan Labs Indexes	YTW	QTD	YTD	12M ¹	Ryan Labs Indexes	YTW	QTD	YTD	12M ¹
RL 2 Year Indexes					RL 10 Year Indexes				
TIPS	-1.55	0.15	1.70	1.52	TIPS	-0.15	3.00	3.60	18.44
Treasury	0.26	0.19	0.11	1.18	Treasury	1.92	2.87	0.54	16.25
Agency	0.50	0.06	0.25	0.91	Agency	1.34	1.52	0.87	10.70
AAA Corporate	0.68	0.08	0.96	2.20	AAA Corporate	2.48	1.91	3.82	15.30
AA Corporate	1.09	0.28	1.57	2.55	AA Corporate	3.15	1.59	4.20	12.99
A Corporate	1.65	0.22	2.79	2.69	A Corporate	3.74	1.31	5.12	11.78
BBB Corporate	2.09	0.34	2.63	3.94	BBB Corporate	4.05	1.23	5.06	11.58
Financials	2.23	0.27	3.20	2.80	Financials	4.43	1.35	6.65	8.89
Industrials	1.02	0.30	1.73	3.26	Industrials	3.54	1.44	4.57	13.99
Utilities	1.11	0.31	1.50	3.41	Utilities	3.52	1.23	3.93	13.37
RL 5 Year Indexes					RL 30 Year Indexes				
TIPS	-1.16	1.19	2.70	7.36	TIPS	0.64	4.69	3.14	26.80
Treasury	0.81	1.29	0.81	8.53	Treasury	3.11	4.86	-3.14	30.78
Agency	0.80	0.84	1.35	7.41	Agency	3.32	3.29	0.37	21.90
AAA Corporate	1.56	0.96	2.57	7.21	AAA Corporate	3.94	2.91	4.57	29.98
AA Corporate	1.93	0.75	3.46	6.49	AA Corporate	4.47	1.46	5.78	23.14
A Corporate	2.71	0.81	5.00	6.44	A Corporate	4.72	1.88	7.22	20.40
BBB Corporate	3.19	0.81	4.65	8.17	BBB Corporate	5.34	1.29	6.57	18.89
Financials	3.40	0.68	6.21	5.88	Financials	5.50	2.04	12.34	16.71
Industrials	2.31	0.93	3.76	8.86	Industrials	4.76	1.52	5.45	22.87
Utilities	2.44	0.79	3.32	8.90	Utilities	4.58	1.76	5.27	23.11
Barclays Indexes					Barclays Indexes				
BC Aggregate	2.07	1.11	1.41	7.54	BC ABS	1.22	0.70	1.54	5.09
BC CMBS	2.86	0.49	3.97	5.53	BC MBS	2.64	0.66	1.22	5.82

The material presented and calculated here is based on information considered reliable. Ryan Labs does not represent that it is accurate or complete.



Investment Grade 10 Year Maturity Sector (April 2012)

Ryan Labs Indexes	YTW	QTD	YTD	12M ¹
RL 10 Year Indexes				
TIPS	-0.15	3.00	3.60	18.44
Treasury	1.92	2.87	0.54	16.25
Agency	1.34	1.52	0.87	10.70
AAA Corporate	2.48	1.91	3.82	15.30
AA Corporate	3.15	1.59	4.20	12.99
A Corporate	3.74	1.31	5.12	11.78
BBB Corporate	4.05	1.23	5.06	11.58
Financials	4.43	1.35	6.65	8.89
Industrials	3.54	1.44	4.57	13.99
Utilities	3.52	1.23	3.93	13.37



Ryan Labs TIPS				
	Yield To Worst (%)	MDuration (Years)	Year To Date Returns (%)	Last 12 Month Returns (%)
2 Year TIPS	-1.55	2.43	1.7	1.52
5 Year TIPS	-1.16	4.81	2.7	7.36
10 Year TIPS	-0.15	10.9	3.6	18.44
30 Year TIPS	0.64	22.12	3.14	26.8
RL TIPS Index	-0.63	8.52	2.89	12.45

Market Implied Breakeven Inflation Expectation				
	Yield To Worst (%)		Inflation (%)	
	Nominals ¹	TIPS	BEI ²	Current ³
CPI (1 Month Lag)				2.9
2 Year	0.26	-1.55	1.81	
5 Year	0.81	-1.16	1.97	
10 Year	1.92	-0.15	2.07	
30 Year	3.11	0.64	2.47	

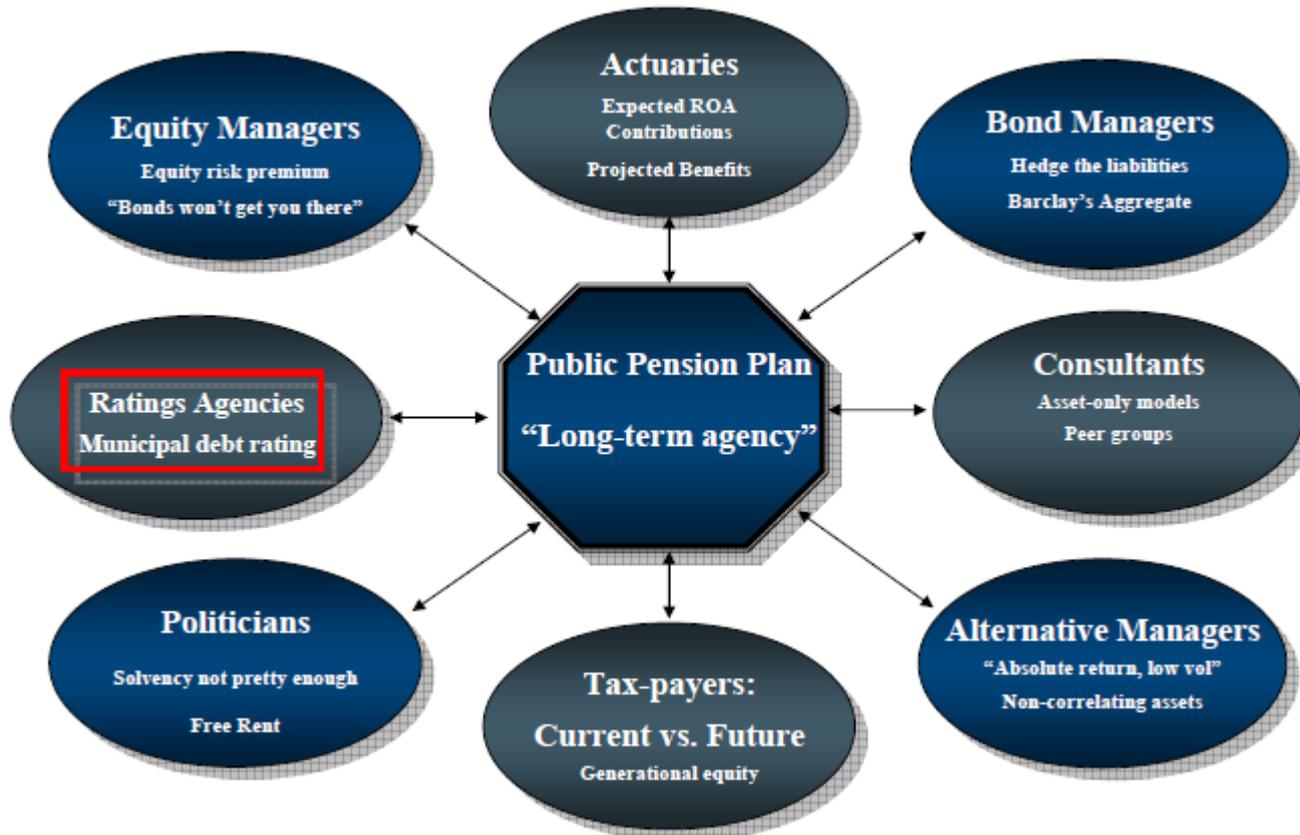
- 1) Nominals represent conventional U.S. Treasury Bonds and Notes.
- 2) BEI = Breakeven Inflation Rate (Nominal yields minus TIPS yields). Widening BEI indicates that TIPS are outperforming nominal bonds. When realized inflation is greater than implied inflation, TIPS also outperform.
- 3) Current Inflation = Bureau of Labor Statistics, Year over Year Consumer Price Index (non-seasonally adjusted, all items, 1 month lag)



“Reality may be viewed differently depending upon one's perspective, suggesting that what seems an absolute truth may be relative due to the deceptive nature of half-truths.”



Alignment of Interest: Principal vs. Agent Tension





Problem: Funding Policy vs. Investment Policy

Funding Policy (Actuary) vs. Investment Policy (Risk Manager)		
Domain	Actuary	Finance Asset Management
Framework	Actuarial cost methods	Short Long bonds Hedging, risk management
Policy Issue	How much to contribute When	How to allocate plan assets
Objective	Smooth, predictable contributions	Economic, prudent
Assumptions	Actuarial	Finance Asset Management
Scorekeeping	Smoothed, amortized Actuarial gains/(losses) Contributions as % of payroll	Mark to market Financial statements Rating agency???



Factors Driving Asset Allocation for Pension Plans: Reality

Expectations for Returns, Volatility, Correlations

Focus on surplus risk/return

Pension fund goals

Ultimate target is solvency and paying benefits

Actuarial Expected Return

4 to 6% risk premium is destructive

Peer Group

Focus on your own liabilities

Ratings Agencies

Will see through the smoothing

Solvency

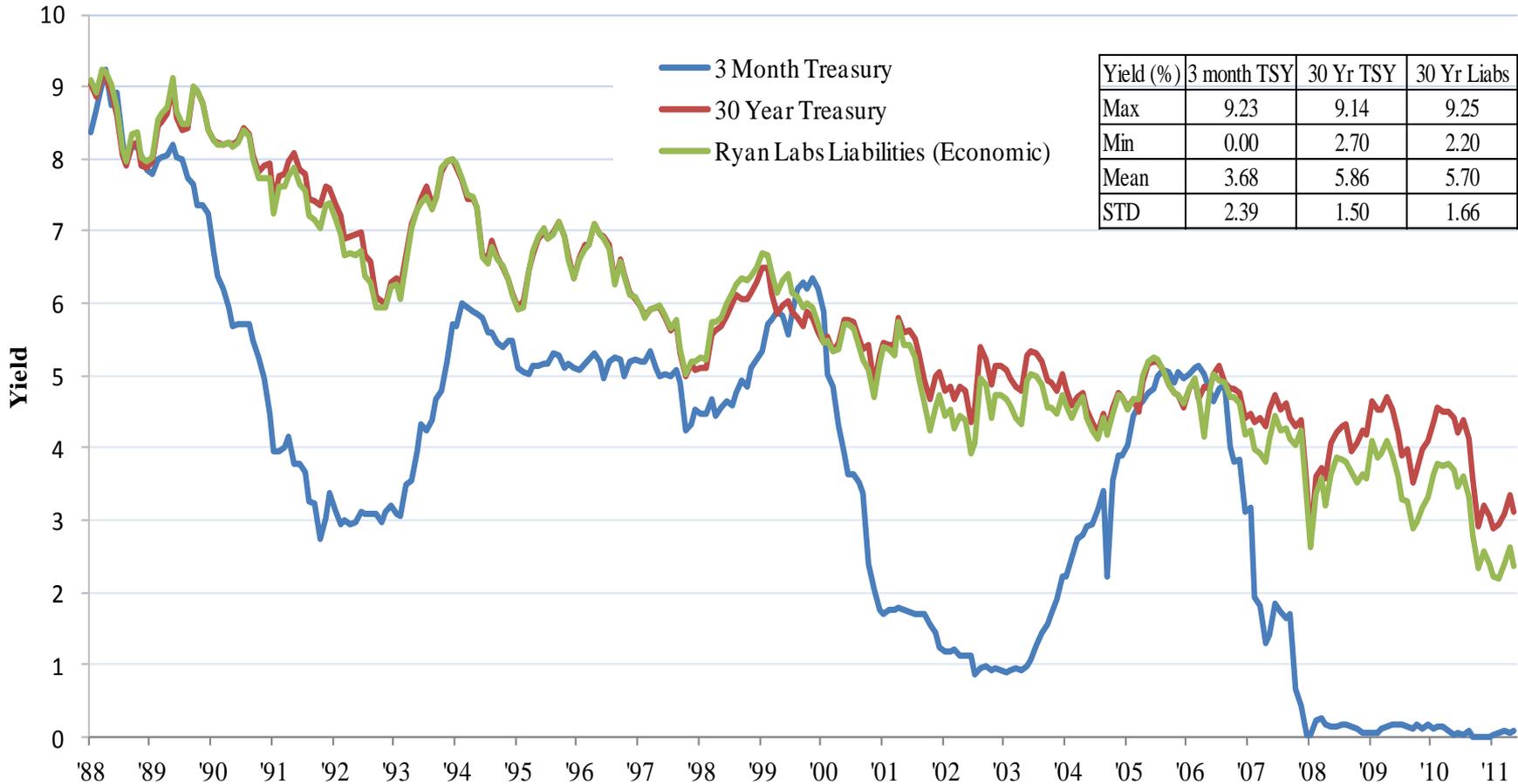
Solvency has no time horizon

Utility of MVL

Contribution management, benefit management, asset allocation



RL 3 mo Treasury vs. RL 30 Year Treasury vs. RL Liabilities



Source: Ryan Labs Indexes

Note: RL STRIPS liability curve is a proxy for economic liabilities



Corporate ERISA Pension Funding: Assets vs. Liabilities (April 30, 2012)

Index	Estimated Weights %	Total Return		
		QTD %	YTD %	Last 12 Months %
Ryan Labs Cash	5	0.02	0.03	0.28
Barclays Aggregate Index	30	1.11	1.41	7.54
S&P 500	60	-0.63	11.87	4.75
MSCI EAFE Int'l	5	-1.84	8.94	-12.82
Asset Allocation Model	100	-0.14	7.94	4.74
Ryan Labs Liability (PPA)	100	-0.25	-1.28	19.06
Assets – Liabilities (PPA)		0.11	9.22	-14.32



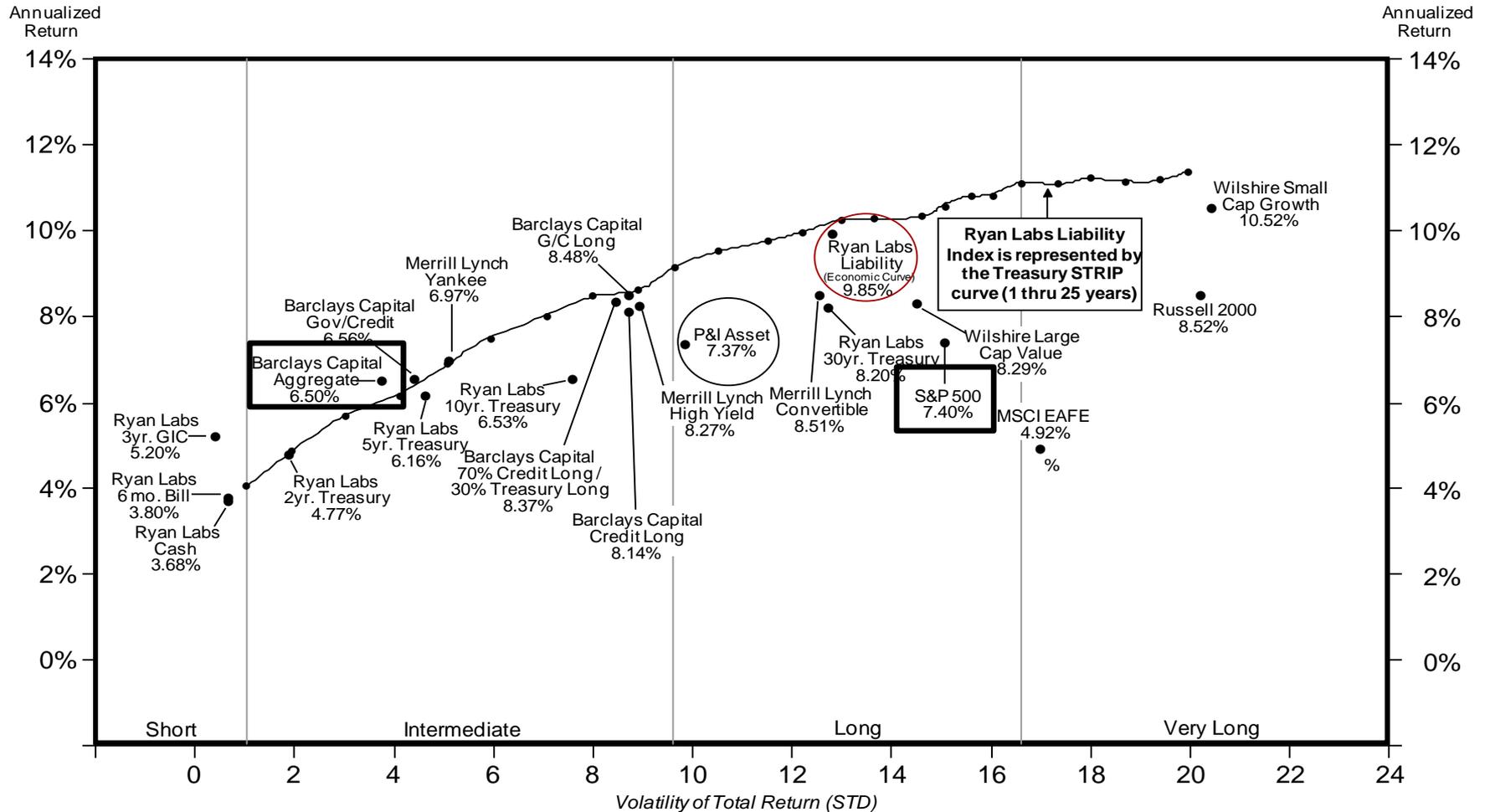
Asset/Liability Watch

April 30, 2012

Index	Weights	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	04/'12
Ryan Labs Cash	5%	6.57	5.01	1.92	1.19	1.27	3.17	4.89	5.22	3.01	0.51	0.35	0.39	0.03
Barclays Aggregate	30%	11.63	8.44	10.25	4.10	4.34	2.43	4.33	6.96	5.24	5.94	6.54	7.84	1.41
S&P 500	60%	-9.10	-11.89	-25.15	28.68	10.88	4.91	15.79	5.50	-37.01	26.45	15.06	2.12	11.87
MSCI EAFE Int'l	5%	-13.87	-21.11	-15.64	39.17	20.70	14.02	26.87	11.62	-43.06	32.45	8.14	-12.19	8.94
Asset Allocation Model	100%	-2.50	-5.42	-13.49	20.04	8.93	4.61	12.25	6.35	-24.49	19.43	11.87	3.26	7.94
RL PPA Liability		7.72	15.40	24.17	7.30	11.22	5.95	2.36	2.39	10.44	6.34	13.73	21.13	-1.28
Return Difference		-10.22	-20.82	-37.66	12.74	-2.29	-1.34	9.89	3.96	-34.93	13.10	-1.86	-17.87	9.22
Funding Ratio (RL PPA)		144.98	118.83	82.78	92.61	90.70	89.55	98.20	102.00	69.74	78.33	77.05	65.68	71.82



Assets vs. Liabilities Monitor (Last 20 years ending 2011)



Sources: Ryan Labs, Inc. - Standard & Poor's Corporation - Barclays Capital - Merrill Lynch - Morgan Stanley Capital International - Russell Investment Group
Wilshire Asset Management - Crandall, Pierce & Company

The information presented herein was compiled from sources believed to be reliable. It is intended for illustrative purposes only, and is furnished without responsibility for completeness or accuracy. Past performance does not guarantee future results.



Traditional Public Pension Equation

Equation Only Works Ex-Post

$$C + \boxed{I} = B + E$$

Contributions + Income = Benefits + Expenses

$$V = H + P$$

Vacation

Hotel + Poker

Introduce an asset/liability framework to Public Pensions

Separate Assets and Liabilities \$

Separate Assets and Liabilities %

Remove smoothing and amortization for internal risk mgmt



GASB 25 (Revisions): Disclosure | Valuation

Cell	Future Value (\$)	Weight (%)	RL PPA Yield (%)	Modified Duration	Market Value (\$)	GASB 25 Current Rate(%)	Actuarial Funding Value (\$)	GASB 25 NEW Rate(%)	Actuarial Funding Value (\$)
Short (0 - 0.5)	479,191,145	2.11	0.17	0.29	478,946,605	8.00	468,294,764	8.00	468,294,764
0.51 - 01.5	1,001,015,841	4.40	0.38	1.05	996,778,801	8.00	922,266,709	8.00	922,266,709
01.51 - 02.5	1,054,954,098	4.57	0.83	2.04	1,036,782,637	8.00	898,676,996	8.00	898,676,996
02.51 - 03.5	1,104,526,153	4.68	1.30	3.03	1,061,367,778	8.00	869,961,089	8.00	869,961,089
03.51 - 04.5	1,149,477,622	4.71	1.83	4.01	1,067,865,727	8.00	837,097,796	8.00	837,097,796
04.51 - 05.5	1,190,599,767	4.68	2.30	4.99	1,060,922,042	8.00	801,657,076	8.00	801,657,076
Limited (0.51 - 5.5)	5,500,573,482	23.05	1.34	3.05	5,223,716,986	8.00	4,329,659,667	8.00	4,329,659,667
05.51 - 06.5	1,227,805,790	4.61	2.72	5.96	1,043,930,399	8.00	764,363,083	8.00	764,363,083
06.51 - 07.5	1,260,909,564	4.51	3.02	6.94	1,022,242,341	8.00	725,772,145	8.00	725,772,145
07.51 - 08.5	1,289,978,046	4.40	3.26	7.91	996,069,227	8.00	686,505,196	8.00	686,505,196
08.51 - 09.5	1,314,916,205	4.24	3.54	8.89	960,063,461	8.00	647,000,237	8.00	647,000,237
09.51 - 10.5	1,335,807,329	4.07	3.76	9.86	922,108,758	8.00	607,706,754	8.00	607,706,754
Intermediate (5.51 - 10.5)	6,429,416,934	21.82	3.24	7.85	4,944,414,186	8.00	3,431,347,414	8.00	3,431,347,414
10.51 - 11.5	1,352,703,404	3.88	3.98	10.83	879,076,833	8.00	568,978,994	8.00	568,978,994
11.51 - 12.5	1,365,595,454	3.70	4.14	11.80	838,109,170	8.00	531,078,635	8.00	531,078,635
12.51 - 13.5	1,374,730,291	3.50	4.30	12.77	794,058,717	8.00	494,306,557	4.26	787,810,526
13.51 - 14.5	1,380,198,361	3.32	4.41	13.74	753,335,938	8.00	458,841,100	4.33	750,442,826
14.51 - 15.5	1,382,087,480	3.13	4.54	14.71	708,802,216	8.00	424,813,133	4.40	713,134,707
15.51 - 16.5	1,380,101,223	2.96	4.59	15.68	671,453,455	8.00	392,207,544	4.47	673,742,794
16.51 - 17.5	1,374,300,852	2.77	4.70	16.65	627,978,351	8.00	361,101,224	4.55	633,702,918
17.51 - 18.5	1,364,503,952	2.62	4.71	17.63	594,854,984	8.00	331,485,841	4.63	593,014,316
18.51 - 19.5	1,350,311,912	2.44	4.80	18.60	553,154,448	8.00	303,297,334	4.71	551,734,972
19.51 - 20.5	1,331,819,770	2.28	4.84	19.57	516,808,147	8.00	276,682,055	4.80	510,913,758
Long (10.51 - 20.5)	13,656,352,699	30.61	4.45	14.73	6,937,632,258	8.00	4,142,692,418	5.11	6,314,554,446
20.51 - 21.5	1,309,059,078	2.13	4.87	20.55	481,764,251	8.00	251,352,057	4.83	475,574,728
21.51 - 22.5	1,282,208,704	1.98	4.88	21.52	448,452,808	8.00	227,628,460	4.87	440,847,053
22.51 - 23.5	1,251,376,671	1.83	4.90	22.49	415,839,238	8.00	205,400,326	4.90	406,911,323
23.51 - 24.5	1,216,960,250	1.69	4.92	23.47	383,871,343	8.00	184,686,110	4.93	374,009,618
24.51 - 25.5	1,178,934,243	1.56	4.92	24.44	353,837,739	8.00	165,422,178	4.96	342,635,010
25.51 - 26.5	1,137,308,274	1.45	4.90	25.42	327,564,324	8.00	147,546,760	4.98	313,604,524
26.51 - 27.5	1,092,546,023	1.32	4.91	26.40	298,743,935	8.00	131,050,372	4.99	285,750,617
27.51 - 28.5	1,045,083,652	1.20	4.91	27.37	272,320,812	8.00	115,903,616	5.01	259,193,200
28.51 - 29.5	995,323,592	1.09	4.90	28.35	248,092,886	8.00	102,060,582	5.02	234,015,050
29.51 - 30.5	943,790,347	1.00	4.88	29.33	225,914,827	8.00	89,478,156	5.03	210,514,983
Very Long (20.51 - 30.5)	11,452,590,833	15.25	4.90	24.27	3,456,402,163	8.00	1,620,528,617	4.94	3,343,056,106
Ultra Long (30.51 +)	9,930,415,091	7.16	4.88	36.24	1,621,616,428	8.00	524,218,352	5.03	1,489,500,670
Total	47,448,540,184	100.00	3.47	13.23	22,662,728,627	8.00	14,516,741,238	6.30	19,376,413,067

Assumptions:

Liability valuation at RL Treasury STRIPS, GASB 25 and the proposed GASB 25 accounting rule
Red line indicates available collateral for promised benefits.

Discount rate based on a blended rate:

- Use the expected rate of return as long as they cover benefits
- Use the current rate on municipal bonds
- Effective date will be Trust reporting 6/15/2013 | Employer reporting 6/15/2014



1.SEC (Philadelphia Office)

- a.2012 focus on Municipal Bond Disclosure
- b.Focus on pension and OPEB

2.S&P Report (March 2011)

- a.Reports Outstanding Debt plus Pension Deficit at 8%

3.Fitch Report (April 2011)

- a.Reports Outstanding Debt plus Pension Deficit at 8% | 6% | 4%

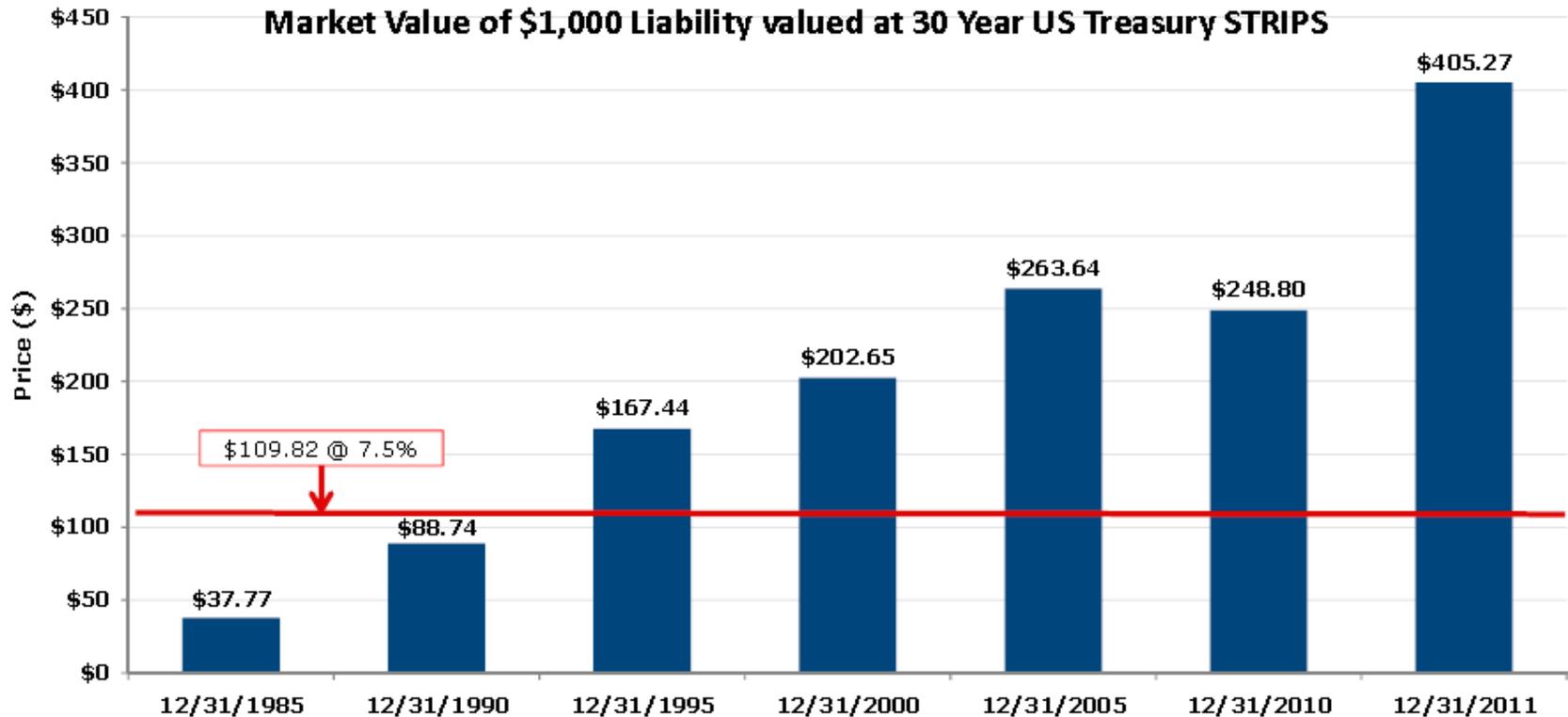
4.Boston College Study (March 2011)

Plan name	Termination		Ongoing	
	6%	8%	6%	8%
Pennsylvania School Employees	2020	2021	2034	2049
Pennsylvania State ERS	2022	2024	2031	2044



Public Pension Plan Liability Valuation and Normal Cost

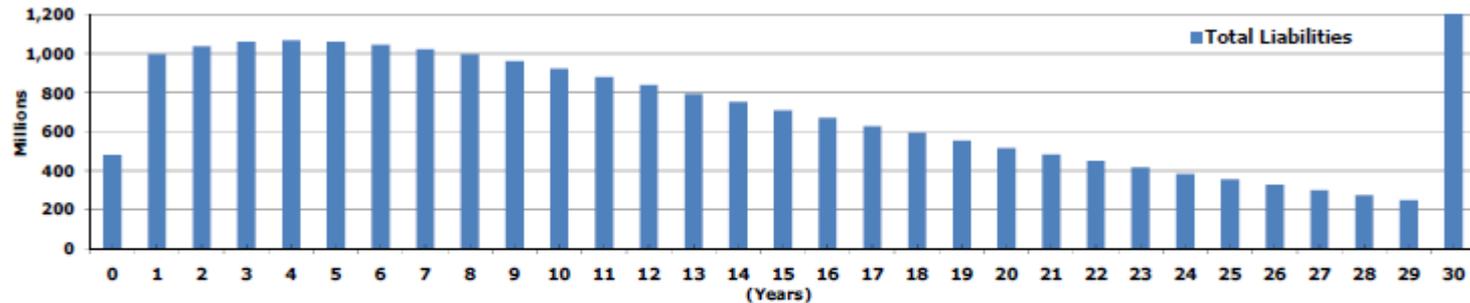
Current Taxpayer vs Future Taxpayer December 31, 2011



Data from Ryan Labs Indexes, Ryan Labs calculations



Total Liability Statistics March 31, 2011



Market Value Statistics							
Liability Years	Short (0 - 0.5)	Limited (0.51 - 5.5)	Intermediate (5.51 - 10.5)	Long (10.51 - 20.5)	Very Long (20.51 - 30.5)	Ultra (30.51+)	Total
Total	2.11%	23.05%	21.82%	30.61%	15.25%	7.16%	100.00%
Yield (%)	0.17	1.34	3.24	4.45	4.90	4.88	3.47
Mduration ⁽¹⁾	0.29	3.05	7.85	14.73	36.24	36.24	13.23
Total (\$)	478,946,605	5,223,716,986	4,944,414,186	6,937,632,258	3,456,402,163	1,621,616,428	22,662,728,627
% of Assets	5.06%	55.18%	52.23%	73.29%	36.51%	17.13%	239.41%
Economic Funding:							41.77%
Current GASB 25 Funding:							65.21%
New GASB 25 Funding:							48.85%



Performance Attribution of Asset vs. Liabilities

Total Assets vs. Total Liabilities December 31, 2010

Total Assets				Total Liabilities			Difference		
Interest Rate Risk	Weight (%)	Present Value	Return Since 12/2009	Weight (%)	Present Value	Return Since 12/2009	Weight (%)	Present Value	Return Since 12/2009
SHORT	83.6%	6,065,119,827		2.1%	389,438,114		81.6%	5,675,681,713	
LMTD	16.4%	1,186,251,676		22.1%	4,155,631,157		-5.7%	-2,969,379,481	
INT	0.0%			21.6%	4,064,308,326		-21.6%	-4,064,308,326	
LONG	0.0%			30.8%	5,788,630,259		-30.8%	-5,788,630,259	
VLONG	0.0%			15.9%	2,985,050,714		-15.9%	-2,985,050,714	
ULTRA	0.0%			7.6%	1,439,388,238		-7.6%	-1,439,388,238	
TOTAL	100.0%	7,251,371,503	12.30%	100.0%	18,822,446,807	9.73%	0.0%	-11,571,075,304	2.57%

Modified Duration Cells

Short	(0.00 to 00.50)	Years	= Cash, Broad Equities, High Yield, Alternative
Limited	(0.51 to 05.50)	Years	= Barclays Aggregate, Barclays Credit, Barclays MBS
Intermediate	(5.51 to 10.50)	Years	
Long	(10.51 to 20.50)	Years	
Very Long	(20.51 to 30.50)	Years	
Ultra	(30.51+)	Years	

Dollar Return Difference Since 12/2009 (\$) =	-905,820,152	(Current Funding)
Dollar Return Difference Since 12/2009 (\$) =	1,297,924,925	(If Fully Funded)



1. Intergenerational Equity: Fairness to the current vs. Future Taxpayer?
2. What are the market value benefits being earned in this year?
3. How does the funding level and benefit security compare to others?
4. Does the Municipal's balance sheet have the risk capacity to sponsor the pension plan funding volatility?
5. Does the expected ROA cause significant asset / liability mismatch?
6. Have we hollowed out the pension plan to balance the budget?
7. Will the pension plan crowd out important public services?
8. Will promises made be promises kept?



1. Mean Variance Models are asset only frameworks
2. MVL has utility for contributions, benefits, and asset allocation
3. Agency versus Pass-Through: Long-term agency is a half-truth
4. Solvency Vs Long Time horizons
5. Traditional methods do not provide sufficient data for risk management
6. Strong governance is necessary but not sufficient
7. Ratings agencies will change

Quote One: In order for the interested parties to assist public pension plans, we need to make sure that the asset side assumptions and liability side assumptions are mutually consistent. *NJIT Douglas Love, Ph.D. 2005*

Quote Two: Although the primary purpose of pension funding in the private sector is to provide collateral in case of bankruptcy, the primary purpose of the public sector funding is to assure intergenerational equity (each generation of taxpayers pay for public services it consumes contemporaneously). **Jeremy Gold, Ph.D. 2003**

Quote Three: In order for public pension sponsor to assure that they meet their retirement objective, a liability framework and custom liability index should be implemented to capture the risk and reward of the enterprise.

Ryan Labs Asset Management 1991



Appendix



Problem: Traditional Mean Variance Model

Assumes normal distribution of returns in a fat tailed world

Only useful within VaR boundary | 2 standard deviations

Fails during highly correlated periods (1987, 1998, 2001, 2008, ...)

Brittle vis-a-vis black swan events

Academic exercise



Rhode Island CAFR 2010 Financial Highlights

STATE OF RHODE ISLAND

GO Rtg

AA2/AA/AA

RATIOS

	FY 2010	FY 2009
Pension Funding Ratio	59%	61%
Net GP Debt/Personal Income	4.5%	4.9%
Debt per Capita	2,127	1,812
Debt/GDP	20.41%	21.5%

%	FY 2011	FY 2010	FY 2009	FY 2008	FY 2007
Income Tax Revenue Growth	15%	-2%	-16%	1%	7%
Sales and Use Tax Revenue Growth	-5%	1%	-4%	-1%	-1%
General Fund Revenue Growth	3%	6%	0%	4%	-1%
Income Tax Revenues % of Total GF Rev	20%	17%	19%	23%	23%
Sales Tax Revenues % of Total GF Reven	25%	27%	28%	29%	31%

FINANCIALS - General Fund

SMM	FY 2011	FY 2010	FY 2009	FY 2008	FY 2007
BS					
+ Cash & Near Cash	189	154	88	155	145
+ Accounts Receivable	499	418	364	350	313
+ Other Receivables	16	13	11	15	14
Total Assets	889	851	675	723	653
+ Accounts Payable	444	454	388	435	431
+ Unearned Revenue	88	33	27	42	23
Total Liabilities	618	663	605	616	509
+ Unreserved General Fund	20	18	-62	-43	
Total Fund Balances	271	188	70	107	144
Total Liabilities and Fund Balances	889	851	675	723	653
IS					
+ Income Tax Revenues	1,015	879	897	1,074	1,065
+ Sales and Use Tax Revenues	1,294	1,358	1,344	1,394	1,414
+ Other Tax Revenues	55	38	37	48	50
+ Federal and Other Grants	2,314	2,276	2,002	1,740	1,630
Total Revenues	5,196	5,038	4,740	4,747	4,546
- General Government Expenses	458	552	587	626	634
- Health Expenses	3,009	2,884	2,711	2,728	2,512
- Education Expenses	1,288	1,239	1,217	1,289	1,267
- Public Safety Expenses	429	395	402	411	396
Total Operating Expenses	5,438	5,327	5,156	5,287	5,032
Net Revenue	-242	-290	-416	-540	-486
Total Financing Sources & Uses	328	408	379	503	427
Net Change in Fund Balances	85	118	-37	-38	-59
Fund Balances Ending	271	188	70	107	144



New Mexico CAFR 2010 Financial Highlights

STATE OF NEW MEXICO

GO rtg Aaa/AA+ S/S

RATIOS

Pension Funding Ratio	75%
Net GP Debt/Personal Income	7.7%
Debt per Capita	1,271
Debt/GDP	3.52%
General Fund Revenue Growth	-7%

FINANCIALS - General Fund

\$MM	FY 2010	FY 2009	FY 2008	FY 2007	FY 2006
BS					
+ Cash & Near Cash	2	53			
+ Marketable sec	139	82	137	804	723
+ Due from Other Funds	918	1,115	1,326	1,045	912
Total Assets	1,130	1,368	1,495	1,954	1,851
+ Due to Other Funds	557	136	165	274	406
Total Liabilities	742	977	607	1,200	915
+ Unreserved General Fund	355	377	854	681	859
Total Fund Balances	388	390	888	754	936
Total Liabilities and Fund Balances	1,130	1,368	1,495	1,954	1,851
IS					
+ Income Tax Revenues	1,082	1,111	1,602	1,640	1,483
+ Other Tax Revenues	2,453	2,750	3,021	2,806	2,689
+ Investment Earnings	720	676	735	654	616
Total Revenues	5,016	5,408	6,339	5,863	6,344
Total Operating Expenses	1,131	1,187	1,241	1,166	2,051
Net Revenue	3,885	4,221	5,098	4,698	4,293
Total Financing Sources & Uses	-3,975	-4,668	-4,994	-4,834	-4,157
Net Change in Fund Balances	-90	-447	104	-136	136
Fund Balances Ending	388	390	888	754	936



Puerto Rico CAFR 2010 Financial Highlights

COMMONWEALTH OF PUERTO RICO

GO debt BBB/Stable

RATIOS

%	FY 2010	FY 2009	FY 2008	FY 2007	FY 2006
Income Tax Revenue Growth	-2%	-6%	-14%	3%	11%
Sales and Use Tax Revenue Growth	-12%	-14%	8%	2%	-4%
General Fund Revenue Growth	3%	7%	-11%	6%	3%
Income Tax Revenues % of Total GF Revenues	35%	37%	42%	43%	44%
Sales Tax Revenues % of Total GF Revenues	12%	14%	17%	14%	14%

FINANCIALS - General Fund

\$MM	FY 2010	FY 2009	FY 2008	FY 2007	FY 2006
BS					
+ Cash & Near Cash	400	128		150	104
+ Accounts Receivable	1,305	1,636	1,384	1,398	1,275
+ Other Receivables	578	341	277	731	325
Total Assets	3,077	4,446	3,541	4,452	4,875
+ Accounts Payable	1,034	1,377	1,716	1,871	1,917
+ Unearned Revenue	1,482	1,507	1,255	1,071	988
Total Liabilities	3,624	5,882	5,312	4,964	5,259
+ Unreserved General Fund	-1,800	-2,683	-2,495	-1,504	-1,154
Total Fund Balances	-547	-1,436	-1,771	-511	-384
Total Liabilities and Fund Balances	3,077	4,446	3,541	4,452	4,875
IS					
+ Income Tax Revenues	5,109	5,191	5,494	6,390	6,182
+ Sales and Use Tax Revenues	1,686	1,915	2,217	2,059	2,014
+ Other Tax Revenues	600	758	665	758	829
+ Intergov'tal Grants	6,529	5,580	4,419	5,030	4,523
Total Revenues	14,554	14,115	13,131	14,724	13,913
- General Government Expenses	1,712	1,363	1,568	2,314	2,334
- Health Expenses	2,783	2,762	2,345	1,941	1,421
- Education Expenses	4,584	5,049	4,419	4,356	4,092
- Public Safety Expenses	2,207	2,071	2,104	1,863	2,107
- Principal Debt Service	505	285	1,938	608	168
- Interest Debt Service	201	219	339	219	275
- Total Debt Service	707	504	2,277	828	443
Total Operating Expenses	16,344	16,350	16,776	15,596	14,653
Net Revenue	-1,790	-2,235	-3,645	-872	-740
Total Financing Sources & Uses	2,679	2,853	2,382	744	860
Net Change in Fund Balances	888	618	-1,263	-127	120



Pennsylvania CAFR 2011 Financial Highlights

COMMONWEALTH OF PENNSYLVANIA

GO rtg Aa1/AA

RATIOS

Pension Funding Ratio	78%
Per Capita Income as % of nat'l avg	101%
Debt per Capita \$	994
Debt/Personal Income	2.30%
Per Capita GDP as % of nat'l avg	95%

FINANCIALS - General Fund

SMM	FY 2011	FY 2010	FY 2009	FY 2008	FY 2007
BS					
+ Cash & Near Cash	116	212	180	59	73
+ Marketable sec	4,725	3,009	3,221	6,620	5,999
+ Accounts Receivable	3,678	3,482	3,515	3,794	3,497
+ Amount Due from Other Gov	2,052	2,913	2,171	1,840	1,424
Total Assets	10,840	9,837	9,317	12,489	11,161
+ Accounts Payable	4,334	4,593	4,749	4,090	3,369
+ Unearned Revenue	2,279	2,189	2,109	2,182	2,014
Total Liabilities	9,219	9,553	8,802	9,515	7,791
+ Unreserved General Fund	742	-1,435	-2,541	10	369
Total Fund Balances	1,621	285	515	2,974	3,371
Total Liabilities and Fund Balances	10,840	9,837	9,317	12,489	11,161
IS					
+ Other Tax Revenues	25,884	24,285	24,118	26,391	25,992
+ Intergovernmental Grants	23,598	21,847	17,897	15,419	15,161
Total Revenues	51,614	47,946	43,614	43,932	43,302
Total Operating Expenses	50,598	47,866	45,247	43,436	42,157
Net Revenue	1,016	80	-1,633	495	1,145
Total Financing Sources & Uses	40	-310	-826	-892	-744
Net Change in Fund Balances	1,056	-230	-2,459	-397	401
Fund Balances Ending	1,621	285	515	2,974	3,371

PENSION

SMM	FY 2010	FY 2009	FY 2008	FY 2007	FY 2006
FV of Plan Assets	89,226	91,127	87,694	83,305	28,149
PBO	114,701	106,643	100,933	96,381	30,365
Underfunding	-25,475	-15,516	-13,239	-13,077	-2,216
Funded Ratio %	78	85	87	86	93



Lackawanna CAFR 2010 Financial Highlights

COUNTY OF LACKAWANNA PA

GO rtg AA+/Watch Neg

RATIOS

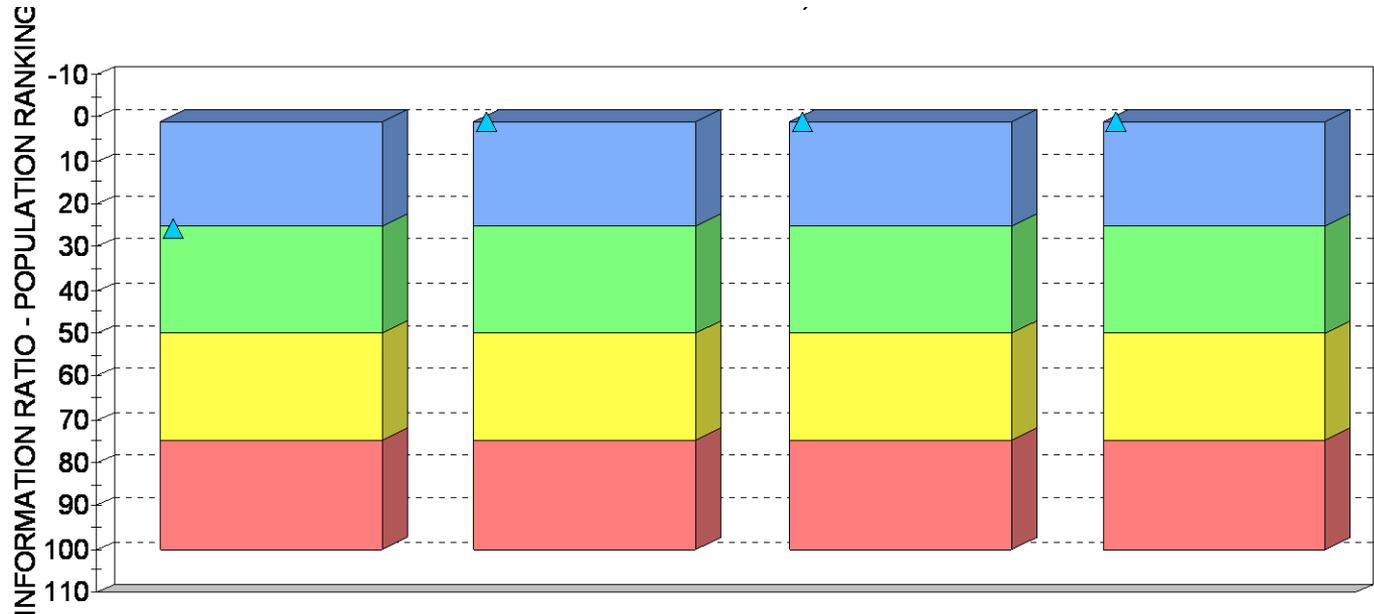
\$MM	FY 2010	FY 2009	FY 2008	FY 2007	FY 2006	FY 2005
Op Margin	15%	8%	11%	12%	10%	16%
Property Tax Revenue Growth	-2%	5%	0%	-4%	-2%	45%
Property Tax Revenues % of Total GF Re	55%	61%	58%	58%	60%	63%
General Fund Revenue Growth	8%	-1%	1%	0%	3%	31%
General Fund Balance Growth	20%	-717%	-56%	-42%	-22%	58%
Pension Funding Ratio	77%	78%	85%	98%	95%	na

FINANCIALS - General Fund

\$MM	FY 2010	FY 2009	FY 2008	FY 2007	FY 2006	FY 2005
BS						
+ Cash & Near Cash	3.9	4.6	4.6	5.1	6.9	3.0
+ Accounts & Taxes Receivable	8.4	10.6	7.1	7.4	8.1	9.1
Total Assets	20.8	24.3	19.5	21.3	26.9	23.4
+ Accounts Payable	8.0	8.0	8.0	6.8	7.9	5.9
+ Unearned Revenue	7.8	7.9	6.3	6.9	8.2	8.5
+ Due to Other Funds	9.1	11.7				
Total Liabilities	32.2	33.8	17.9	17.8	20.8	15.7
+ Unreserved General Fund	-11.4	-9.5	1.5	3.5	6.1	7.7
Total Fund Balances	-11.4	-9.5	1.5	3.5	6.1	7.7
Total Liabilities and Fund Balances	20.8	24.3	19.5	21.3	26.9	23.4
IS						
+ Property Tax Revenues	54.5	55.3	52.7	52.5	54.6	55.8
+ Charges for Services	17.6	15.0	16.2	16.3	17.1	15.0
+ Intergovernmental Grants	20.3	20.2	21.6	20.5	17.9	na
Total Revenues	98.5	90.9	91.4	90.6	91.0	88.5
- Gen Gov't Expenses	18.8	20.3	17.9	18.6	24.3	13.9
- Public Safety Expenses	26.9	26.1	25.5	25.3	23.1	23.3
- Health Expenses	16.6	17.2	17.6	16.1	15.2	15.6
- Judicial Expenses	18.3	16.6	16.6	15.2	13.8	14.4
Total Operating Expenses	84.1	83.9	81.6	80.1	82.2	74.4
+ Excess (Deficiency) of Revenues Over	14.4	7.0	9.8	10.5	8.8	14.1
Net Change in Fund Balances	-1.9	-11.0	-1.9	-2.6	-1.7	2.8
Fund Balances Ending	-11.4	-9.5	1.5	3.5	6.1	7.7



PSN Core Fixed Income Performance and Information Ratio Quartile Rankings ending 03/31/2012



QUARTILE RANKING BAR - INFORMATION RATIO

	3/2009-3/2012		3/2007-3/2012		3/2002-3/2012		6/1996-3/2012	
	VALUE	RANK	VALUE	RANK	VALUE	RANK	VALUE	RANK
▲ Ryan Labs, Inc. BME	1.11	26	1.35	1	1.00	1	0.64	1

QUARTILE RANKING BAR - RATE OF RETURN

	12/2011-3/2012		3/2011-3/2012		3/2009-3/2012		3/2007-3/2012		3/2002-3/2012		6/1996-3/2012	
	VALUE	RANK	VALUE	RANK	VALUE	RANK	VALUE	RANK	VALUE	RANK	VALUE	RANK
▲ Ryan Labs, Inc. BME	0.48	82	7.35	53	7.98	39	7.54	9	6.83	3	7.02	9



Market Enhanced Portfolios Summary as of March 31, 2012

<i>Discretionary Composites</i>	Current Quarter	1 Year	3 Years	5 Year	SID	Value Added	Start Date	Risk ^{2,3}	Tracking ^{2,4} Error	Info ^{2,5} Ratio
Government Enhanced	-0.85%	7.87%	3.99%		5.53%	-0.03%	6/30/2008	4.86%	0.57%	-0.06
<i>BC Government Index</i>	-1.12%	7.89%	3.96%		5.56%			4.67%		
Long Market Enhanced	-2.00%	21.11%			16.74%	1.13%	12/31/2010	9.55%	2.13%	0.53
<i>BC Government/Credit Long</i>	-2.12%	19.91%			15.62%			9.88%		
Long Government Enhanced	-5.60%	24.41%			13.66%	0.74%	1/31/2010	13.46%	1.09%	0.68
<i>BC Government Long</i>	-5.57%	23.00%			12.92%			12.80%		
Long Credit Enhanced	1.55%	20.08%			17.31%	2.77%	6/30/2009	7.83%	1.47%	1.88
<i>BC Credit Long Index</i>	0.80%	17.32%			14.54%			7.67%		
Inflation Index Enhanced	0.68%	12.25%	8.71%	7.56%	7.11%	0.10%	5/31/2002	7.07%	0.50%	0.20
<i>US TIPS (Broad Market)</i>	0.81%	12.59%	8.63%	7.54%	7.01%			7.06%		
High Yield	4.70%	8.67%			8.67%	2.22%	3/31/2011	8.46%	1.82%	1.22
<i>BC US High Yield</i>	5.34%	6.45%			6.45%			9.93%		

¹ Since inception value added over benchmark

² Risk calculations based upon return since inception

³ Annualized standard deviation of monthly returns (volatility)

⁴ Annualized standard deviation of monthly differential returns

⁵ Value added per unit of tracking error



Market Enhanced Fixed Income Portfolios Summary as of March 31, 2012

<i>Discretionary Composites</i>	Current Quarter	1 Year	3 Years	5 Year	SID	Value Added	Start Date	Risk ^{2,3}	Tracking ^{2,4} Error	Info ^{2,5} Ratio
Short Duration Enhanced	0.25%	1.97%	2.37%	3.79%	4.89%	0.43%	12/31/1993	1.66%	0.62%	0.69
<i>ML Treasury 1 to 3 year Index</i>	<i>-0.07%</i>	<i>1.44%</i>	<i>1.50%</i>	<i>3.38%</i>	<i>4.46%</i>			<i>1.63%</i>		
Short Duration Enhanced (GC)	0.58%	2.36%			2.77%	0.35%	6/30/2009	1.00%	0.19%	1.84
<i>ML Government/Credit 1 to 3 year Index</i>	<i>0.46%</i>	<i>1.83%</i>			<i>2.43%</i>			<i>0.98%</i>		
Intermediate Market Enhanced	0.36%	5.96%	6.43%	6.55%	6.28%	0.37%	1/31/2000	3.31%	0.90%	0.41
<i>BC Government/Credit Intermediate Index</i>	<i>0.61%</i>	<i>6.09%</i>	<i>5.88%</i>	<i>5.67%</i>	<i>5.91%</i>			<i>3.31%</i>		
Government Credit Enhanced	-0.15%	9.17%	8.29%		8.46%	1.87%	7/31/2007	4.59%	1.34%	1.39
<i>BC Government/Credit Index</i>	<i>0.08%</i>	<i>8.53%</i>	<i>7.09%</i>		<i>6.60%</i>			<i>4.63%</i>		
Broad Market Enhanced	0.48%	7.35%	7.98%	7.54%	7.02%	0.66%	6/30/1996	3.87%	1.19%	0.55
<i>BC Aggregate Index</i>	<i>0.30%</i>	<i>7.71%</i>	<i>6.83%</i>	<i>6.25%</i>	<i>6.36%</i>			<i>3.57%</i>		

¹ Since inception value added over benchmark

² Risk calculations based upon return since inception

³ Annualized standard deviation of monthly returns (volatility)

⁴ Annualized standard deviation of monthly differential returns

⁵ Value added per unit of tracking error



Customized Asset/Liability Portfolios Summary as of March 31, 2012

<i>Discretionary Composites</i>	Current Quarter	1 Year	3 Years	5 Year	SID	Value Added ¹	Start Date	Risk ^{2,3}	Tracking ^{2,4} Error	Info ^{2,5} Ratio
Short Liability Enhanced	0.45%	4.33%	3.85%	5.02%	5.28%	0.48%	10/31/2000	2.38%	0.72%	0.66
<i>Custom Liability Index (1 to 3 years)</i>	0.45%	3.97%	2.77%	4.72%	4.80%			2.62%		
Intermediate Liability Enhanced	0.27%	6.64%	5.36%	6.34%	6.00%	0.21%	1/31/1997	3.51%	0.89%	0.24
<i>Custom Liability Index (3 to 5 years)</i>	-0.01%	6.44%	3.84%	6.01%	5.79%			3.82%		
Core Liability Enhanced	0.73%	10.18%	7.68%	8.37%	6.93%	0.55%	7/31/2001	5.81%	1.27%	0.43
<i>Custom Liability Index (5 to 7 years)</i>	0.05%	9.12%	4.94%	7.51%	6.38%			6.08%		
Long Liability Enhanced	1.34%	12.19%	9.27%	9.83%	9.54%	0.91%	6/30/1991	8.42%	1.63%	0.56
<i>Custom Liability Index (7 to 10 years)</i>	0.85%	10.14%	5.48%	7.70%	8.63%			8.67%		
Inflation Index Intermediate	0.55%	13.44%	9.12%	7.89%	6.51%	0.14%	4/30/2003	7.12%	0.53%	0.27
<i>Custom TIPS Index</i>	0.78%	13.88%	8.99%	7.75%	6.37%			7.25%		
Very Long Liability Enhanced	-0.92%	19.95%	11.32%	10.71%	10.30%	1.78%	12/31/1999	10.65%	2.49%	0.71
<i>Custom Liability Index (10 to 15 years)</i>	-1.29%	17.11%	5.51%	7.88%	8.52%			11.12%		

¹ Since inception value added over benchmark

² Risk calculations based upon return since inception

³ Annualized standard deviation of monthly returns (volatility)

⁴ Annualized standard deviation of monthly differential returns

⁵ Value added per unit of tracking error



Performance Disclosures

Past performance of the account is not indicative of future results. The performance above is gross of all fees and expenses for the stated period and assumes reinvestment of dividends and other earnings. Risk Return characteristics are based on returns from inception of the account through the stated date and do not reflect the deduction of advisory fees. An advisory fee reduces the investor's return and any other expenses Ryan Labs may incur managing the investment advisory account. The investment advisory fees are described in Part II of the Ryan Labs Form ADV. The investment advisory fee charged to each investor causes their return to be lower than the gross returns presented above. For example, on a \$100,000,000 investment, an investment advisory fee of \$170,000 per year is deducted from the account. For example, an account with a compounded annual total return of 10% would have increased by 159% over ten years. Assuming an annual advisory fee of 0.17%, this increase would be 155%. All returns are calculated net of transaction costs, and gross of taxes on dividends and interest. Performance results are based on US dollar returns.

Investment results may vary. No assurance can be given that the investment objective will be achieved, and an investor may lose money. Due to current market volatility, current performance may be lower than that of the figures shown. This material is intended for informational purposes only and does not constitute investment advice, a recommendation, or an offer or solicitation to purchase or sell any security or other instrument. The Account's total return will fluctuate over a wider range than money market investments due to greater sensitivity to (i) interest rates, (ii) market conditions, (iii) and maturities. The Barclays Aggregate Index is comprised of domestic investment grade fixed income securities with maturities of 1 to 30 years. Pursuant to the rules of the Index, the Index's portfolio must (i) have at least one year to final maturity, (ii) have at least \$100 million par amount outstanding, (iii) be fixed rate, (iv) be U.S. Dollar denominated and non-convertible, (v) and be publicly issued. Indexes are unmanaged and are not subject to transaction charges or expenses. An investor may not invest directly in an index.

The term "modified duration" is derived from the duration of any security or series of securities and provides a measure of the risk with which the sensitivity of bonds or bond portfolios to interest rate changes can be estimated. A 1% increase (or decrease) in the interest rate accordingly produces a percentage fall (or rise) in the price in proportion to the modified duration. For example, assume that the modified duration of a bond portfolio is 4.5 years and the theoretical YTW is 5.3%. If the interest rate drops by 1% to 4.3%, the portfolio price increases by approximately 4.5%.



Liability Disclosures

The information contained herein employs proprietary projections of expected returns of assets and liabilities, as well as estimates of their future volatility. The relative relationships and forecasts contained herein are based upon proprietary research and are developed through analysis of historical data and capital markets theory. These estimates have certain inherent limitations, and unlike an actual performance record, they do not reflect actual trading, liquidity constraints, fees and other costs. References to future returns are not promises or even estimates of actual returns a client portfolio may achieve. The forecasts contained herein are for illustrative purposes only and are not to be relied upon as advice or interpreted as a recommendation. Performance results represent the investment performance record for a size-weighted composite of similarly managed, unconstrained discretionary accounts.

Performance results are gross of investment management fees. The deduction of an advisory fee reduces an investor's return. Actual account performance will vary depending on individual portfolio security selection and the applicable fee schedule. Past performance is not a guarantee of comparable future results. Fees are described in Part II of the Advisor's ADV which is available upon request.

The following is an example of the effect of compounded advisory fees over a period of time on the value of a client's portfolio: A portfolio with a beginning value of \$100 million, gaining an annual return of 10% per annum would grow to \$259 million after 10 years, assuming no fees have been paid out. Conversely, a portfolio with a beginning value of \$100 million, gaining an annual return of 10% per annum, but paying a fee of 1% per annum, would only grow to \$235 million after 10 years. The annualized returns over the 10 year time period are 10.00% (gross of fees) and 8.91% (net of fees). If the fee in the above example was 0.25% per annum, the portfolio would grow to \$253 million after 10 years and return 9.73% net of fees. The fees were calculated on a monthly basis, which shows the maximum effect of compounding. The investment strategy described in this presentation is managed by Ryan Labs Asset Management's opinions and estimates offered constitute our judgment and are subject to change without notice, as are statements of financial market trends, which are based on current market conditions.

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